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Retirement Security Across Generations

Are Americans Prepared for
Their Golden Years?

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Overview

When the Great Recession hit in 2007, the oldest baby boomers were nearly eligible for Social Security. Many of them recalled stories of the Great Depression and feared that their own nest eggs would vanish with too little time to make up the losses. Having lived most of their lives in an expanding economy, these Americans faced the real possibility of downward mobility just as they were entering their golden years.

The downturn also heightened concerns about retirement planning—or lack of planning—by younger generations. Many younger Americans were already behind in saving for retirement, and suddenly millions of them were out of work or owned homes worth far less than they had been just a few years earlier.

This report explores how the Great Recession affected the wealth and retirement security of baby boomers relative to younger and older cohorts of Americans. The analysis compares their wealth to that of other cohorts at similar ages to understand how boomers are

faring in relative terms. It also tracks the wealth of each cohort over the last two decades to assess the recession's impact on each group's financial security. Wealth is measured three ways:

- **Net worth** is a comprehensive measure of wealth that includes all financial assets (such as savings and retirement accounts), nonfinancial assets (such as business property), and home equity, less debt.
- **Financial net worth** is a subset of net worth that includes just financial assets: savings accounts, 401(k)s, pensions, and individual retirement accounts.
- **Home equity** is a homeowner's estimate of the difference between what the home could be sold for and what is owed on the mortgage.

Additionally, the report explores the retirement security of each cohort by calculating replacement rates, or the extent to which retirees can use their accumulated wealth and savings to replace preretirement income. Surprisingly, this research reveals that younger cohorts are the ones who face a greater prospect of downward mobility in their golden years. Specifically, the study found:

- **Early boomers (born between 1946 and 1955) were approaching retirement in better financial shape than the cohorts that came before them.** Benefitting from both the dot-com boom and the housing bubble, early boomers had higher overall wealth, financial net worth, and home equity in their 50s and 60s than Depression babies (born between 1926 and 1935) or war babies (born between 1936 and 1945) had at the same ages, putting these boomers in a strong financial position for retirement.
- **The picture of wealth accumulation and savings for Americans born after 1955 was more mixed.** Gen-Xers (born between 1966 and 1975) had higher net worth than late boomers (born between 1956 and 1965) when both were in their 30s and 40s, but neither group had as much wealth as early boomers had at the same age. Similarly, late boomers had more wealth than early boomers when both were in their 40s and 50s, but neither had as much as did war babies.
- **Both cohorts of baby boomers and Gen-Xers have significantly lower asset-to-debt ratios than do the older groups.** Over the last two decades, Depression and war babies have been shedding debt, while boomers and Gen-Xers have been accumulating it. As of 2010, war babies' asset levels were 27 times higher than their debt. In contrast, late boomers' assets were about four times higher than their debt, and Gen-Xers' assets were about double their debt.
- **All groups experienced wealth losses in the Great Recession, but Gen-Xers took the hardest hit.** Both early and late boomers were negatively affected by the recession at a critical point in their lives, losing 28 and 25 percent of their median net worth, respectively. From 2007 to 2010, however, Gen-Xers lost nearly half (45 percent) of their wealth, an average of about \$33,000, reducing their already low levels.

The situation for younger cohorts is more tenuous in terms of financial net worth. Neither Gen-Xers nor late boomers were on track to exceed the financial position of the cohorts that immediately preceded them. In their 30s and 40s, Gen-Xers lagged late boomers by about \$6,000 by this metric, and in their 40s and 50s, late boomers lagged early boomers by more than \$5,000.

- **Replacement rate analysis shows that the youngest cohorts will not have enough assets for a secure retirement.**

Early boomers may be the last cohort on track to retire with enough savings and assets to maintain their financial security through their golden years. Even after the recession, they had acquired enough savings and wealth to replace nearly 70 to 80 percent of their preretirement income. Replacement rates have steadily declined across the cohorts studied, putting the youngest on shaky financial footing. At the median, Gen-Xers will have enough resources to replace

only about half of their preretirement income; late boomers will replace about 60 percent.

This report delves into these findings, examining the evidence behind them, particularly the trends, by cohort, of wealth accumulation in periods immediately before, during, and just after the Great Recession. Through that lens, it considers the implications for the later-life economic security of millions of Americans currently in their prime-earning through early-retirement years.

Total Net Worth

The analysis begins by comparing cohorts' net worth. This is a comprehensive metric that includes all financial assets (such as savings and retirement accounts), nonfinancial assets (such as business property), and home equity, minus debt.¹ Net worth is the total of wealth and as such provides a holistic picture of overall financial security.²

COHORTS STUDIED

Depression babies were born between 1926 and 1935 and are 78 to 87 years old.

War babies were born between 1936 and 1945 and are 68 to 77 years old.

Early boomers were born between 1946 and 1955 and are 58 to 67 years old.

Late boomers were born between 1956 and 1965 and are 48 to 57 years old.

Gen-Xers were born between 1966 and 1975 and are 38 to 47 years old.

In the years leading up to the Great Recession, all cohorts saw wealth gains.

Between 1989 and 2007, all five birth cohorts saw gains in median net worth (see Figure 1). In fact, net worth losses were rare over this period, generally occurring during recessions or as older cohorts drew down assets in retirement. War babies and early boomers experienced losses in the 1990-1991 recession.

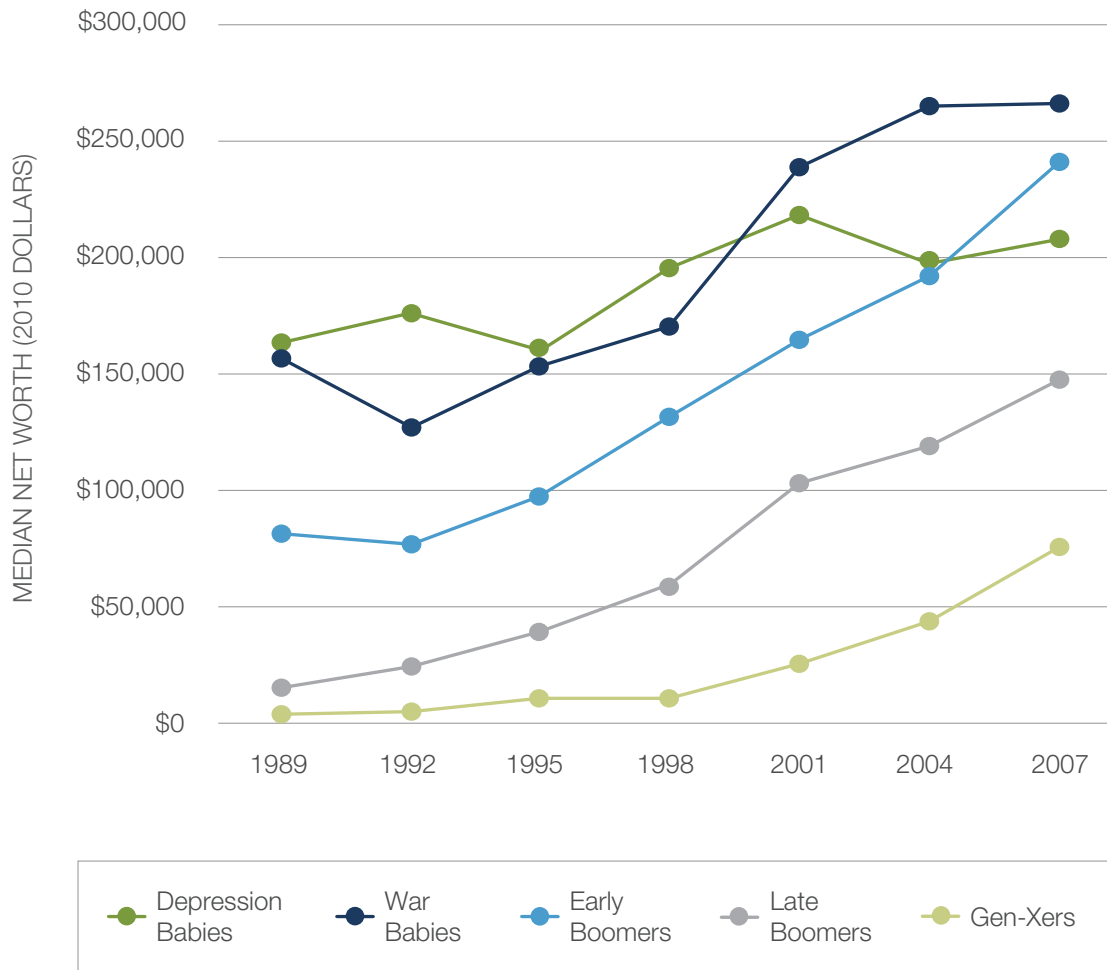
Depression babies did so both from 1992 to 1995, as they approached retirement age, and again from 2001 to 2004, as they drew down wealth in retirement.

Approaching retirement age, early boomers had higher median net worth than did older cohorts at the same ages.

Comparing the cohorts at three points in their lives—in their 30s/40s, 40s/50s, and 50s/60s—shows how each group fared relative to previous generations at the same ages. Cohorts are analyzed based on the age ranges in which they fell in 1989, 1998, and 2007. For example, Depression babies were in their 50s/60s in 1989; war babies were in their 40s/50s in 1989 and their 50s/60s in 1998; early boomers were

WEALTH TRENDED STEADILY UPWARD IN THE DECADES BEFORE THE GREAT RECESSION

FIGURE 1. WEALTH TRENDS BY COHORT, 1989-2007



Source: Survey of Consumer Finances.

in their 30s/40s in 1989, their 40s/50s in 1998, and their 50s/60s in 2007; late boomers were in their 30s/40s in 1998 and their 40s/50s in 2007; and Gen-Xers were in their 30s/40s in 2007.

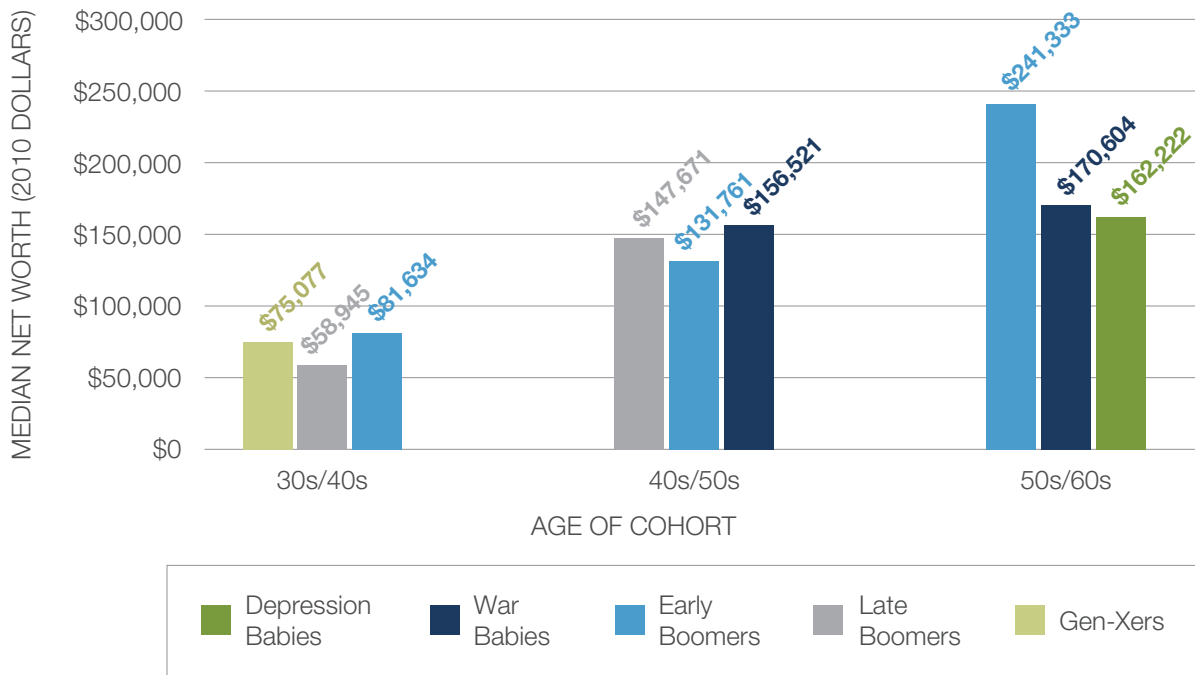
This cohort comparison reveals that prior to the recession, early boomers were approaching retirement with higher median wealth than the cohorts

before them. By the time they were in their 50s/60s, early boomers had just over \$241,000 in median wealth. By comparison, war babies had \$170,604 and Depression babies had \$162,222 at the same ages (see Figure 2).

Despite their advantage at retirement age, early boomers were not always on track to surpass war babies. The latter group

BEFORE THE RECESSION, EARLY BOOMERS WERE WELL-POSITIONED FOR RETIREMENT, COMPARED WITH OLDER AMERICANS AT THE SAME AGE

FIGURE 2. WEALTH LEVELS BY COHORT AT THREE AGE BRACKETS



Source: Survey of Consumer Finances, 1989, 1998, 2007.

Note: Cohorts are shown in the age ranges in which they fell at the time of the 1989, 1998, and 2007 surveys. Depression babies were in their 50s/60s in 1989; war babies were in their 40s/50s in 1989 and their 50s/60s in 1998; early boomers were in their 30s/40s in 1989, their 40s/50s in 1998, and their 50s/60s in 2007; late boomers were in their 30s/40s in 1998 and their 40s/50s in 2007; and Gen-Xers were in their 30s/40s in 2007.

had higher median wealth in their 40s/50s than did the early boomers (\$156,521 versus \$131,761). Benefitting from both the dot-com boom and the housing bubble, early boomers experienced an 83 percent growth in total assets between their 40s/50s and 50s/60s, while war babies saw only 9 percent growth between the same ages a decade earlier.

The net worth levels of the cohorts that followed early boomers, however, suggests a less-certain future.

In their 30s/40s, the youngest cohort, Gen-Xers, had more wealth than those of the next-oldest, the late boomers, at the same age. It is important to note that Gen-Xers' net worth in their 30s/40s was measured shortly after the peak of the housing boom. But neither cohort matched the wealth of early boomers when they were in their 30s/40s.

By their 40s/50s, late boomers benefited from economic growth between 1998 and 2007, which put them on more secure footing relative to the next-oldest group, early boomers, at the same age. At this stage of their lives, however, late boomers still did not have as much wealth as war babies had.

The Great Recession caused substantive losses in median net worth, with Gen-Xers taking the hardest hit.

Excluding Depression babies, who were well into retirement age when the Great Recession hit, each of the cohorts lost considerable net worth during the downturn, both in dollar and percentage terms. For these four cohorts, losses were so severe that even in 2010, as the national economic recovery took hold, median wealth remained lower than it had been in 2004.

As detailed in Table 1, the recession caught early and late boomers at a critical

point in their lives—approaching or having just entered retirement—and both were negatively affected, losing 28 and 25 percent of their wealth, respectively. But it's the youngest cohort, Gen-Xers, who experienced the largest declines in median net worth. From 2007 to 2010, this group lost nearly half (45 percent) of their wealth—a loss at the median of about \$33,000, decreasing already low accumulations.

As noted above, net worth is total assets minus total debt. To better understand how the cohorts compare in terms of net worth, it is useful to consider each component—median assets and debt—separately.

Each cohort's median assets grew steadily between 1989 and 2007, with the three youngest showing consistent and parallel growth over this period (see Figure 3). With the exception of Depression babies, each cohort then experienced recession-driven asset declines between 2007 and 2010. Still, Figure 3 makes clear that all

THE GREAT RECESSION DEPLETED THE WEALTH OF VIRTUALLY ALL COHORTS

TABLE 1. WEALTH LOSSES DURING THE GREAT RECESSION

	Median Net Worth			Median Loss	Percent Change
	2004	2007	2010	2007-2010	2007-2010
Depression Babies	\$197,508	\$207,965	\$207,500	\$465	0%
War Babies	\$265,201	\$265,797	\$212,300	\$53,497	-20%
Early Boomers	\$192,215	\$241,333	\$173,480	\$67,853	-28%
Late Boomers	\$119,207	\$147,671	\$110,870	\$36,801	-25%
Gen-Xers	\$43,299	\$75,077	\$41,600	\$33,477	-45%

Source: Survey of Consumer Finances.

Note: Net worth is adjusted to 2010 dollars.

cohorts experienced net growth since 1989, suggesting a healthy rate of asset accumulation.

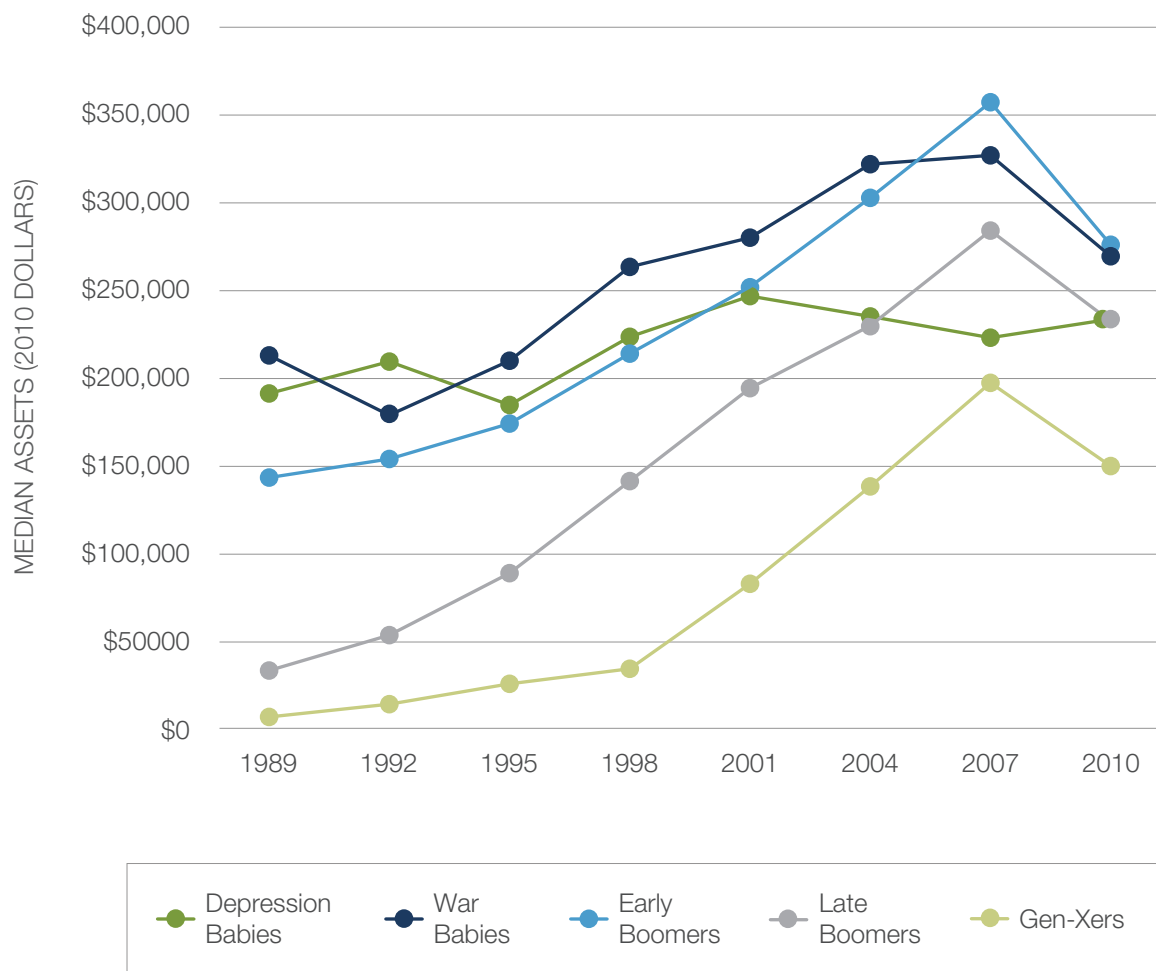
For baby boomers and Gen-Xers, however, the period between 1989 and 2007 was also marked by similarly high rates of debt accumulation (see Figure 4). Leading up to and after the recession, each of the three youngest cohorts increased their debt significantly, with Gen-Xers taking on the

most. In 2010, Gen-Xers had more than \$80,000 in debt, exceeding by \$20,000 the levels of the next-most-indebted cohort, the late boomers.

Over the same period, the two oldest cohorts were systematically shedding debt. By 2007, Depression babies had zero debt at the median, while war babies had just over \$15,000.

MEDIAN ASSETS OF EVERY COHORT GREW BEFORE THE RECESSION, THEN FELL DURING THE RECESSION

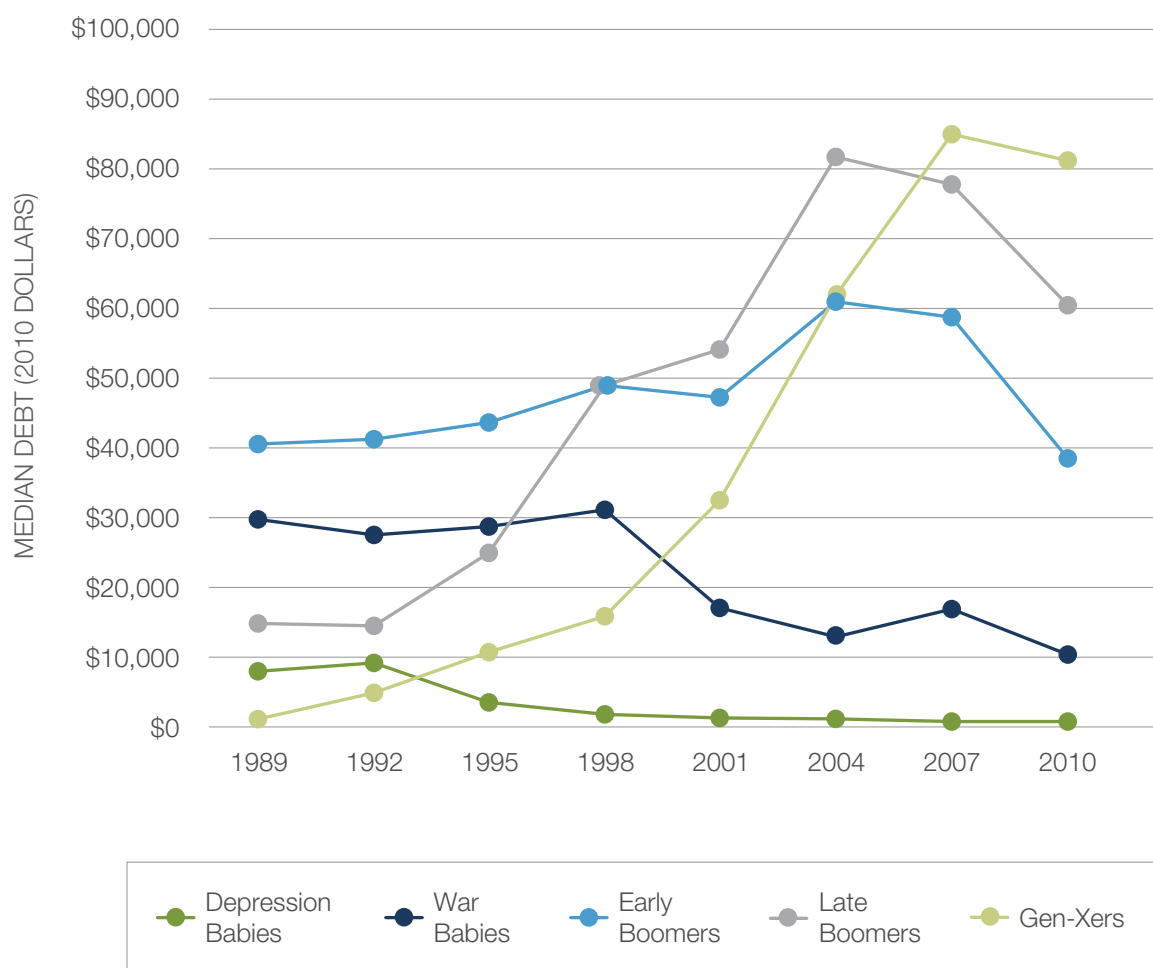
FIGURE 3. ASSET LEVELS BY COHORT, 1989-2010



Source: Survey of Consumer Finances.

BABY BOOMERS AND GEN-XERS ACCUMULATED LARGE AMOUNTS OF DEBT BEFORE THE GREAT RECESSION, WITH DECLINES SINCE

FIGURE 4. DEBT TRENDS BY COHORT, 1989-2010



Source: Survey of Consumer Finances.

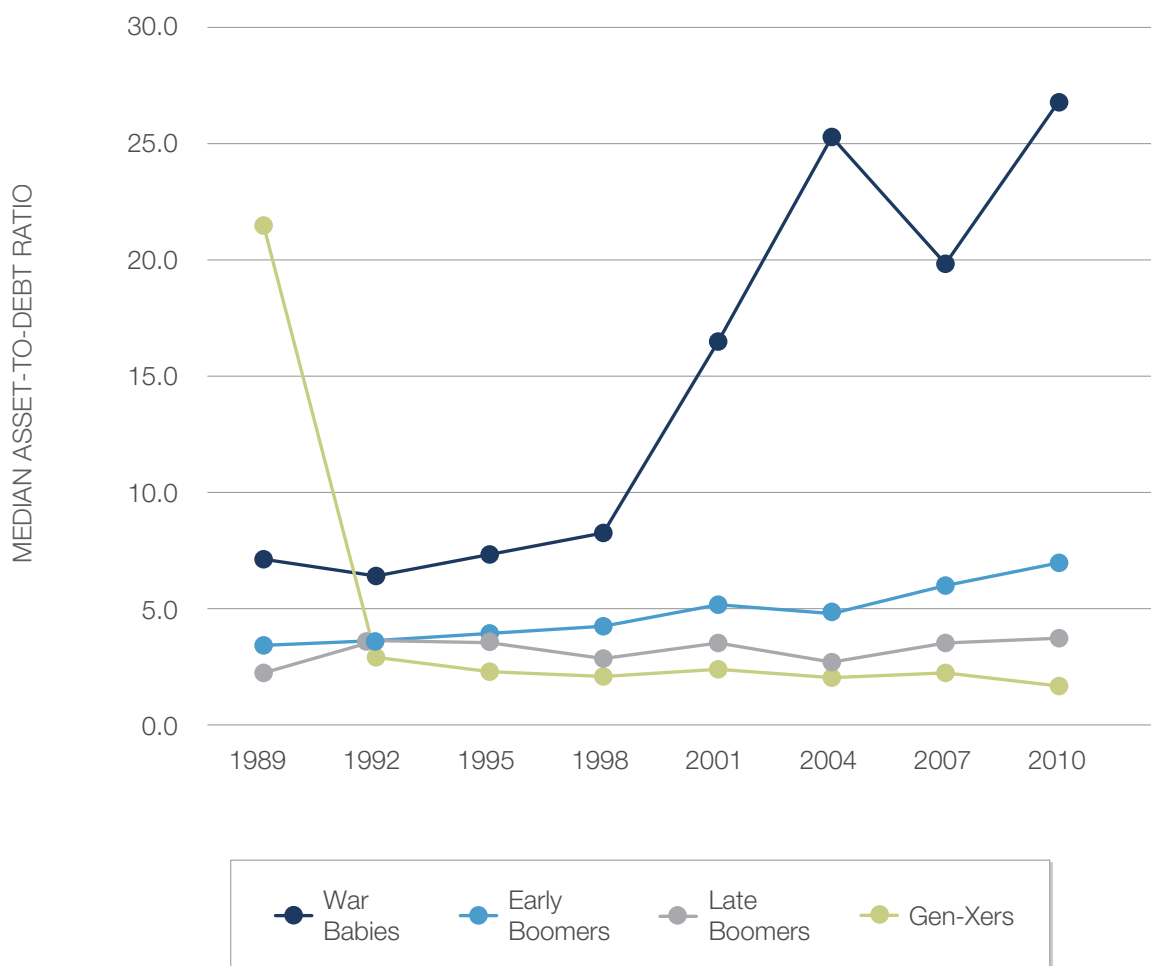
The stark differences in debt accumulation across cohorts is most clearly demonstrated by asset-to-debt ratios.³ The two boomer cohorts and Gen-Xers do have more assets than debt, but their ratios are significantly lower than those of the older cohorts (see Figure 5). In 2010, war babies' assets were nearly 27 times their debt while Gen-Xers' assets were less than twice their debt. Depression babies' ratios are not shown

on the chart below because by 1995, their assets exceeded their debt by more than 50 to 1. By 2007, more than half of all Depression babies were debt-free.

Asset-to-debt ratios certainly reflect lifecycle effects. Without a doubt, Depression babies and war babies would be unlikely to seek debt in retirement and would be relying on their assets for living expenses.

YOUNGER AMERICANS HAVE FAR FEWER ASSETS, RELATIVE TO DEBT, THAN DO OLDER AMERICANS

FIGURE 5. ASSET-TO-DEBT RATIOS BY COHORT, 1989-2010



Source: Survey of Consumer Finances.

Note: Depression babies' asset-to-debt ratios are not shown because by 1995, their assets exceeded their debt by a ratio of more than 50 to 1. By 2007, more than half of all Depression babies were debt-free.

The employed younger cohorts would be most likely to increase debt levels as they maintain mortgages, pay educational expenses, and seek car loans while also building assets for the future.

Baby boomers, however, are approaching retirement with higher levels of debt than their predecessors, suggesting historical increases in the use of debt later in life.⁴

Financial Net Worth

The previous discussion of total net worth compares the cohorts in terms of overall wealth, which includes home equity. Understanding how they compared at various ages in regard to savings alone, however, provides critical information about retirement planning and future financial security. This section compares the five cohorts by the more limited metric of financial net worth, which includes savings, 401(k)s, pensions, and individual retirement accounts.

Before the Great Recession, the three youngest cohorts' financial net worth was growing.

Between 1989 and 2007, early boomers saw their retirement savings grow 251 percent to more than \$75,000 (see Figure 6). Late boomers saw an even larger increase, 675 percent, over the same period, to just over \$40,000. Gen-Xers experienced the largest percentage savings and retirement growth at more than 1,000 percent, from less than \$2,000 in 1989 to more than \$19,000 in 2007.

The oldest cohorts, Depression and war babies, sustained fairly substantial hits

to their financial net worth in the 2000-2001 recession. Despite this, war babies still ended this period with more than 100 percent growth, and the overall decline experienced by Depression babies was likely driven in part by them tapping their accounts in retirement and by investment or other economy-driven losses.

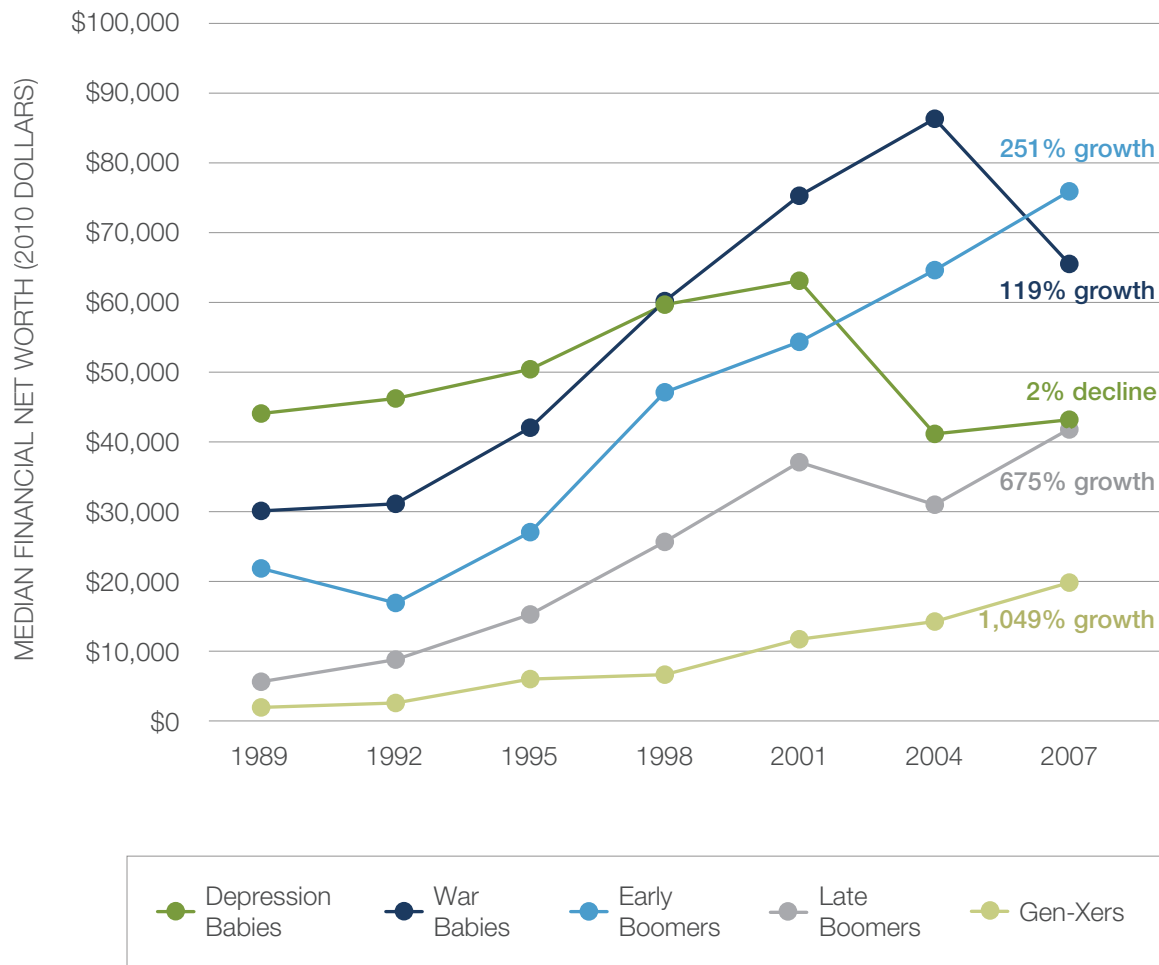
Despite strong gains in financial net worth, the youngest cohorts are less prepared for retirement than previous cohorts were at the same ages.

As with total net worth, each of the three oldest cohorts approached retirement on better financial footing than the one that came immediately before. In their 50s/60s, early boomers had greater financial wealth than war babies at the same age, and war babies in turn had greater financial wealth than Depression babies (see Figure 7).

Even before the recession, however, late boomers and Gen-Xers were not on track to continue this trend. In their 30s/40s, Gen-Xers had less financial wealth than did either of the boomer cohorts at the same age. Late boomers had greater savings than did early boomers in their

BABY BOOMERS AND GEN-XERS EXPERIENCED LARGE GAINS IN FINANCIAL NET WORTH BEFORE THE RECESSION

FIGURE 6. FINANCIAL NET WORTH TRENDS BY COHORT, 1989-2007



Source: Survey of Consumer Finances.

Note: The percentage growth or decline is calculated for the period 1989-2007.

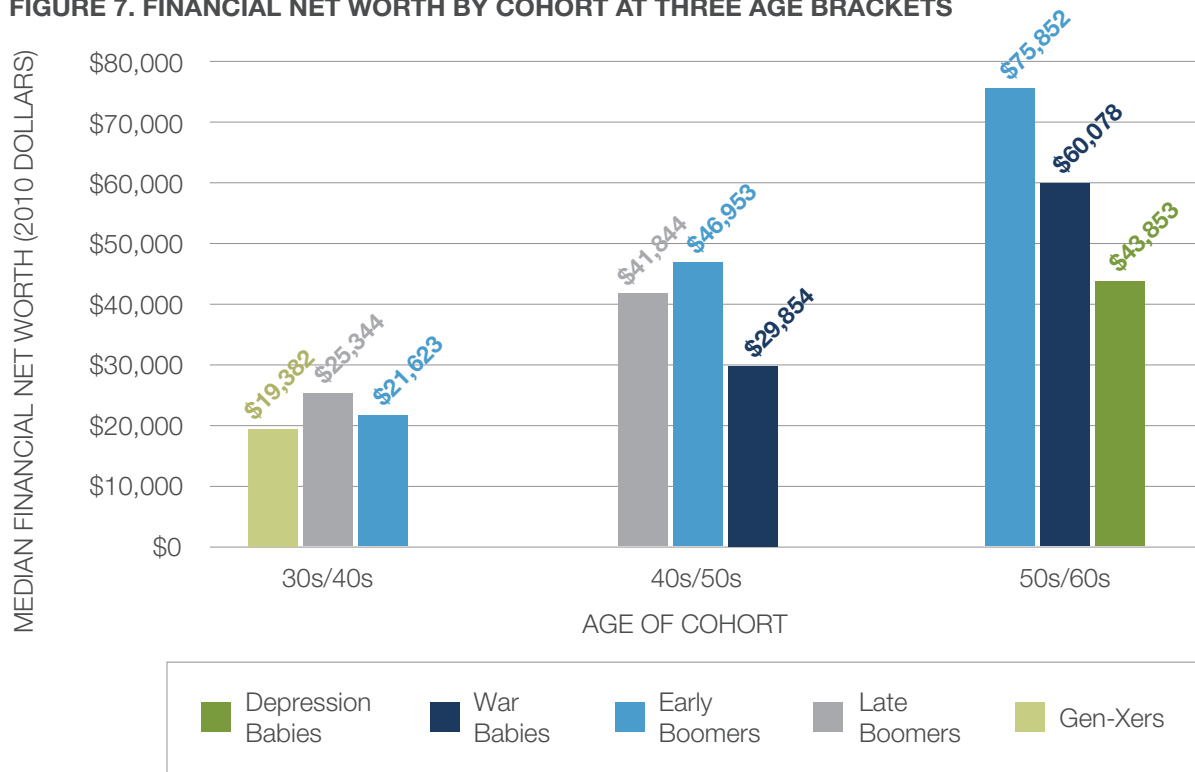
30s/40s, but by the time they reached their 40s/50s, they had fallen behind their older peers by an average of \$5,000.

Aside from Depression babies, all cohorts lost considerable financial net worth in the Great Recession.

Coming out of the recession, all the cohorts experienced declines in financial net worth from their 2007 averages (see Table 2). By 2010, it had fallen by 30 percent for war babies, 26 percent for early boomers, 23 percent for late boomers, and 25 percent for Gen-Xers. Early boomers and war babies experienced the largest

LATE BOOMERS AND GEN-XERS ARE LESS-PREPARED FOR RETIREMENT THAN OLDER AMERICANS

FIGURE 7. FINANCIAL NET WORTH BY COHORT AT THREE AGE BRACKETS



Source: Survey of Consumer Finances, 1989, 1998, 2007.

Note: Cohorts are shown in the age ranges in which they fell at the time of the 1989, 1998, and 2007 surveys. Depression babies were in their 50s/60s in 1989; war babies were in their 40s/50s in 1989 and their 50s/60s in 1998; early boomers were in their 30s/40s in 1989, their 40s/50s in 1998, and their 50s/60s in 2007; late boomers were in their 30s/40s in 1998 and their 40s/50s in 2007; and Gen-Xers were in their 30s/40s in 2007.

losses in absolute dollars—about \$20,000 each—because they had the highest savings to lose. War babies, however, were 65 and older by 2010, so some of their decline could be attributable to drawing down financial assets in retirement.⁵

ALL GROUPS, EXCEPT THE VERY OLDEST, EXPERIENCED SIGNIFICANT FINANCIAL LOSSES DURING THE GREAT RECESSION

TABLE 2. FINANCIAL NET WORTH LOSSES BY COHORT, 2007-2010

	Median Financial Net Worth		Median Loss	Percent Change
	2007	2010	2007-2010	2007-2010
Depression Babies	\$43,018	\$40,700	\$2,318	-5%
War Babies	\$65,428	\$45,500	\$19,928	-30%
Early Boomers	\$75,852	\$55,850	\$20,002	-26%
Late Boomers	\$41,844	\$32,135	\$9,709	-23%
Gen-Xers	\$19,382	\$14,500	\$4,882	-25%

Source: Survey of Consumer Finances.

Note: Net worth is adjusted to 2010 dollars.

Home Equity

At the end of the recession, a majority of each of the five cohorts were homeowners (see Table 3). The two youngest cohorts—late boomers and Gen-Xers—had lower rates of homeownership than the older three, but the housing bubble and subsequent crash still had powerful implications for the retirement security and overall wealth of every group.

Leading up to the recession, younger cohorts saw the largest gains in home equity.

In the two decades before the recession, each cohort saw dramatic gains in home equity (see Figure 8). The three youngest cohorts—early boomers, late boomers, and Gen-Xers—however, experienced the largest increases in this period, with

Gen-Xers realizing the biggest gains: from about \$20,000 in 1989 to more than \$67,000 in 2007, an increase of 231 percent. Late boomers saw comparable growth in percentage terms (227 percent), increasing their home equity from \$32,000 in 1989 to nearly \$105,000 in 2007.

The housing bubble pushed younger cohorts’ home equity above levels held by previous cohorts at the same ages.

Before the housing boom, early boomers were in their 40s/50s, and their home equity was about 30 percent lower than war babies’ had been at the same ages (see Figure 9). Then, as the early boomers were reaching to their 50/60s, the housing bubble occurred, boosting their equity 96 percent and putting them well ahead of

LATE BOOMERS AND GEN-XERS HAD LOWER HOMEOWNERSHIP RATES THAN OLDER AMERICANS

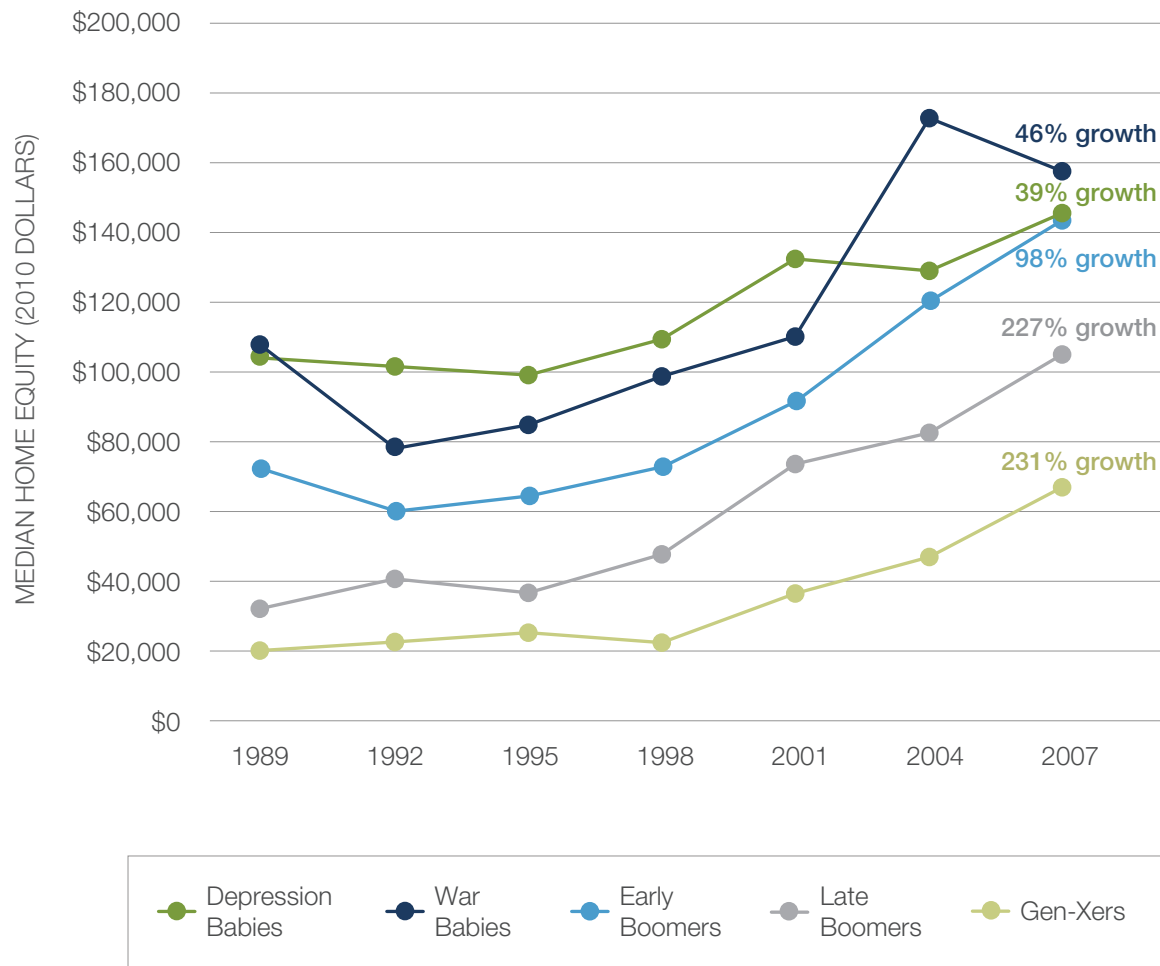
TABLE 3. POST-RECESSION RATES OF HOMEOWNERSHIP BY COHORT

	Depression Babies	War Babies	Early Boomers	Late Boomers	Gen-Xers
2010	82.0%	82.8%	77.8%	75.2%	63.0%

Source: Survey of Consumer Finances.

HOME EQUITY GREW BEFORE THE RECESSION

FIGURE 8. HOME EQUITY TRENDS BY COHORT, 1989-2007



Source: Survey of Consumer Finances.

Note: The percentage growth or decline is calculated for the period 1989-2007.

where both older cohorts had been as they approached retirement. Similarly, as late boomers entered their 40s/50s, a bubble-driven home equity increase of 118 percent pushed their levels above what early boomers had a decade earlier.

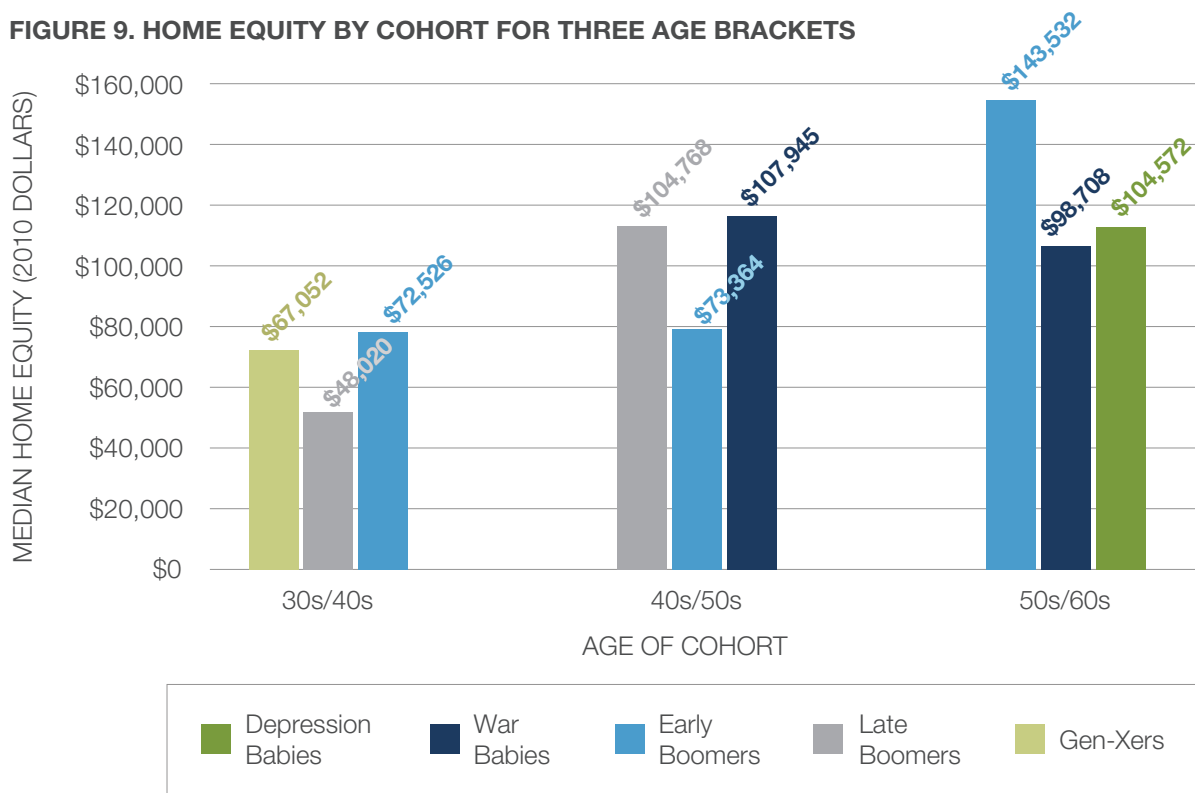
All cohorts lost home equity during the housing bust but still came out ahead.

All the cohorts lost some home equity during the recession, with only Depression babies emerging relatively unscathed (see Table 4). Gen-Xers lost 27 percent of their equity between 2007 and 2010, the largest percentage loss of the groups studied.⁶

Still, it's important to note that all cohorts gained significantly more equity in the run-up to the recession than they lost in its

BEFORE THE HOUSING CRASH, YOUNGER COHORTS HAD MORE HOME EQUITY THAN OLDER AMERICANS DID AT THE SAME AGES

FIGURE 9. HOME EQUITY BY COHORT FOR THREE AGE BRACKETS



Source: Survey of Consumer Finances, 1989, 1998, 2007.

Note: Cohorts are shown in the age ranges in which they fell at the time of the 1989, 1998, and 2007 surveys. Depression babies were in their 50s/60s in 1989; war babies were in their 40s/50s in 1989 and their 50s/60s in 1998; early boomers were in their 30s/40s in 1989, their 40s/50s in 1998, and their 50s/60s in 2007; late boomers were in their 30s/40s in 1998 and their 40s/50s in 2007; and Gen-Xers were in their 30s/40s in 2007.

aftermath. As shown in the final column of Table 4, even in the wake of the housing collapse, homeowners in every cohort ended the recession with more median equity than they had before the boom. Even after their significant losses, Gen-X homeowners had an increase in median home equity between 1998 and 2010 of 116 percent.

But the gains were not enjoyed as widely among this youngest cohort as they were for older groups. Less than two-thirds (63 percent) of Gen-Xers were homeowners in 2010 (see Table 3). So, more than one-third of them did not benefit from the equity growth that occurred in the decade before the housing bubble because they did not own a home.

THOUGH ALL GROUPS LOST HOME EQUITY DURING THE GREAT RECESSION, THEY STILL HAD NET EQUITY GAINS COMPARED WITH PRE-HOUSING BOOM LEVELS

TABLE 4. HOME EQUITY LEVELS BY COHORT, 1998-2010

	Median Home Equity			Median Loss During Recession	Percent Change During Recession	Percent Change 1998-2010
	1998	2007	2010			
Depression Babies	\$109,379	\$145,104	\$141,000	\$4,104	-3%	29%
War Babies	\$98,708	\$157,152	\$127,000	\$30,152	-19%	29%
Early Boomers	\$73,364	\$143,532	\$112,000	\$31,532	-22%	53%
Late Boomers	\$48,020	\$104,768	\$90,000	\$14,768	-14%	87%
Gen-Xers	\$22,676	\$67,052	\$49,000	\$18,052	-27%	116%

Source: Survey of Consumer Finances.

Note: Home equity is adjusted to 2010 dollars.

Overall Recessionary Impact

The data discussed above clearly show that working-age and retired Americans alike lost wealth during the Great Recession. But not every household suffered wealth losses in the economic downturn, and a sizable number in each cohort actually gained wealth between 2007 and 2009.

Even after the recession, large majorities in every cohort had positive wealth holdings.

Majorities in every cohort retained at least some assets after the recession, and only very small percentages in each reported having no net worth. As Figure 10 shows, from 1989 to 2007, the percent reporting zero net worth declined steadily in every cohort, reflecting the aging of each group and the wealth building that generally happens over a lifetime. From 2007 through the post-recessionary period in 2010, some cohorts had a small uptick in the percentages with no wealth. The youngest cohorts—late boomers and Gen-Xers—had the highest such proportions after the recession, but even those rates were low (about 6 and 7 percent, respectively).

Not all households lost net worth during the recession.

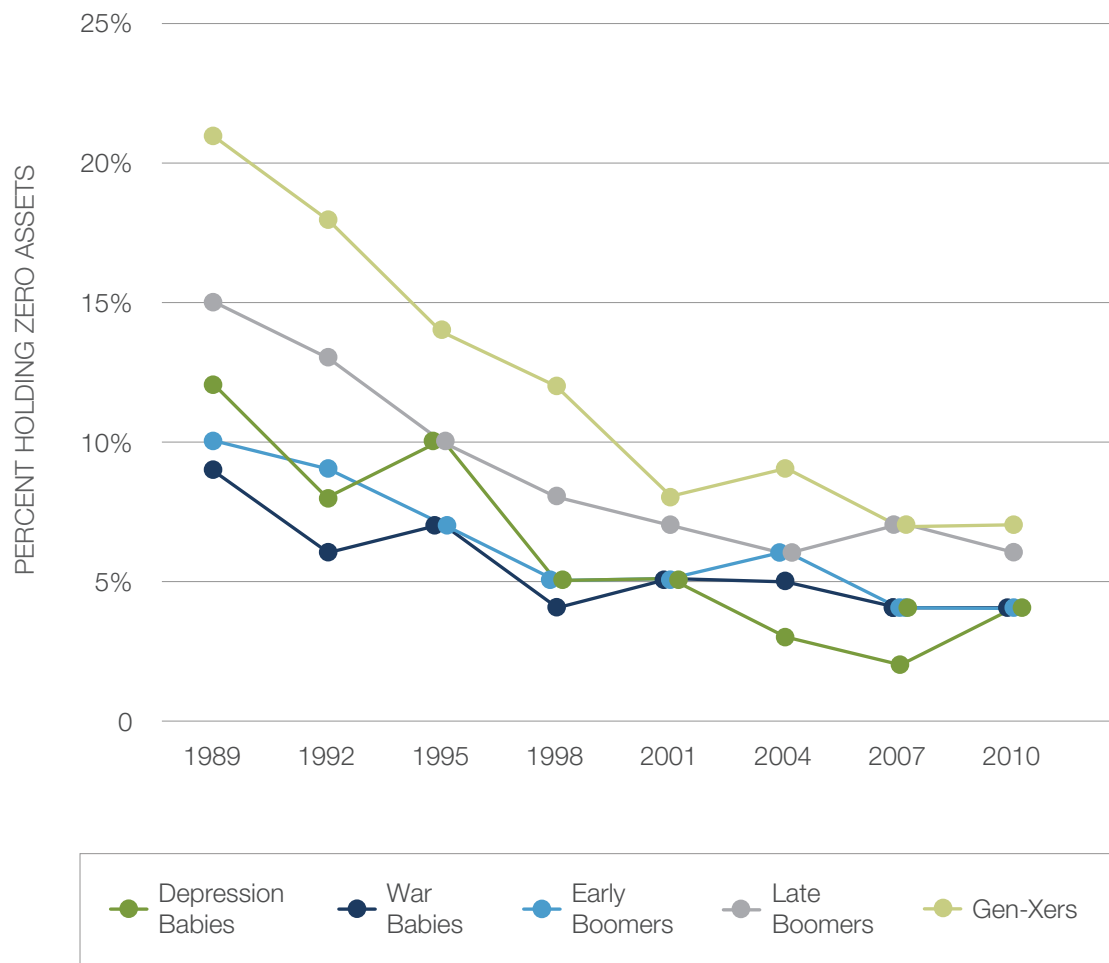
Not all households experienced negative effects from the recession, and some actually gained wealth during this period. Using data from the Panel Study on Income Dynamics, a longitudinal study that follows the same households over time, demonstrates that there was actually a great deal of variation within and across cohorts in the degree to which the recession affected wealth.

In fact, a sizable minority of households, ranging from 39 to 44 percent of all households (see Table 5), had improved median net worth, financial net worth, and retirement accounts between 2007 and 2009. In the case of home equity, more than one-third of households across the cohorts experienced gains during the same two-year period. This is particularly notable because among all Americans, wealth declined between 2007 and 2009.

Looking across the cohorts, there was some variation in whose wealth rose and whose fell. Among the oldest, Depression babies, 67 percent lost net worth, which is not entirely surprising given that a

DESPITE RECESSION-ERA LOSSES, MOST AMERICANS RETAINED AT LEAST SOME WEALTH

FIGURE 10. PERCENTAGE REPORTING ZERO WEALTH BY COHORT, 1989-2010



Source: Survey of Consumer Finances.

majority of people in this group were retired and drawing down their assets. The next-largest loss was among the late boomers; 62 percent of those households had a decline in median net worth between 2007 and 2009. The housing collapse also hit this group particularly hard, with 68 percent reporting home equity losses.

Conversely, about half of the two youngest cohorts, late boomers and Gen-Xers, experienced gains to their retirement accounts between 2007 and 2009, far outperforming the older cohorts on this metric.

SIZABLE MINORITIES EXPERIENCED WEALTH GAINS DURING THE RECESSION

TABLE 5. CHANGES IN WEALTH BY COHORT, 2007-2009

	Net Worth		Financial Net Worth		Housing Equity		Retirement Accounts	
	Gains	Losses	Gains	Losses	Gains	Losses	Gains	Losses
All								
Percent	39.0%	-61.0%	43.3%	-56.7%	33.8%	-66.2%	44.1%	-55.9%
Median Gain/Loss	\$42,437	-\$77,524	\$19,929	-\$27,465	\$16,204	-\$39,838	\$16,003	-\$32,492
Depression Babies								
Percent	32.6%	-67.4%	38.1%	-61.9%	31.4%	-68.6%	41.6%	-58.4%
Median Gain/Loss	\$68,519	-\$95,205	\$15,244	-\$45,233	\$15,971	-\$33,899	\$9,288	-\$13,246
War Babies								
Percent	38.8%	-61.2%	38.4%	-61.7%	35.9%	-64.1%	43.0%	-57.0%
Median Gain/Loss	\$47,872	-\$125,400	\$32,680	-\$43,600	\$17,330	-\$41,230	\$10,291	-\$91,967
Early Boomers								
Percent	41.4%	-58.6%	46.9%	-53.1%	33.7%	-66.3%	35.8%	-64.2%
Median Gain/Loss	\$58,411	-\$82,405	\$27,715	-\$42,055	\$17,850	-\$40,615	\$18,220	-\$36,298
Late Boomers								
Percent	38.0%	-62.0%	42.2%	-57.8%	32.4%	-67.6%	50.1%	-49.9%
Median Gain/Loss	\$36,324	-\$65,847	\$18,932	-\$18,424	\$15,372	-\$44,951	\$21,618	-\$32,670
Gen-Xers								
Percent	41.3%	-58.7%	47.5%	-52.6%	35.7%	-64.3%	48.9%	-51.1%
Median Gain/Loss	\$31,380	-\$48,076	\$9,822	-\$8,890	\$15,214	-\$42,848	\$10,964	-\$13,851

Source: Panel Study of Income Dynamics, 2007-2009.

Note: All dollar values are adjusted to 2009 dollars.

Considering Recessionary Losses, Are Americans Prepared for Retirement?

There is no doubt that the recession eroded the wealth of many Americans. And notably, even before it occurred, younger cohorts appeared less prepared for retirement than their older peers had been at the same age, making their losses even more troubling. Still, measuring absolute wealth declines does not tell the full story about any one cohort's retirement security. By estimating each cohort's replacement rates—the amount of their working-age income they will be able to replace through savings when retired—it is possible to more fully evaluate the implications of the Great Recession.

Replacement rates have become the standard metric for comparing the preparedness of households on the verge of retirement. Financial planners suggest that individuals should ideally be able to replace 70 to 100 percent of their annual income through savings and wealth during retirement.

This analysis calculates replacement rates using a comprehensive measure of wealth that includes net worth plus the value of annuitized assets, such as pensions and Social Security. The analysis also assumes retirement at age 65 and takes

into account how factors such as average life expectancy, savings and wealth levels, earnings while working, and access to pensions or employer retirement plans differ across demographic groups and household types. (For more information about how replacement rates were calculated, see the Data and Methods section on page 27.)

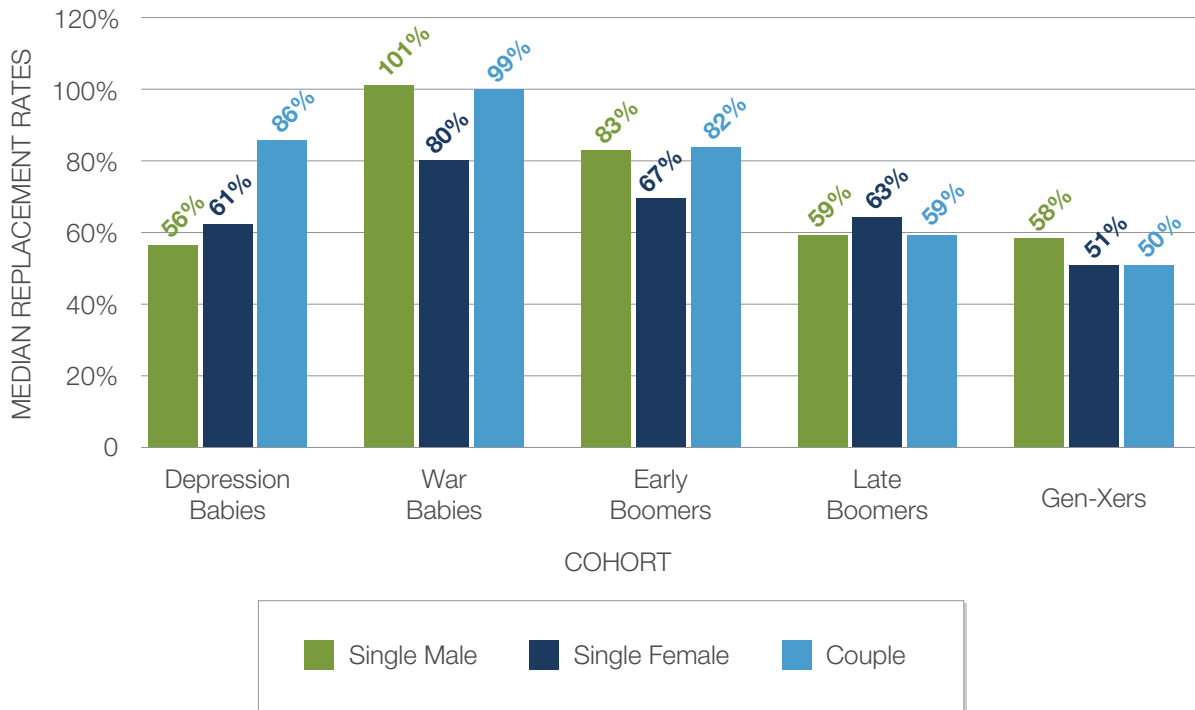
Rates shown for Depression and war babies are based on survey data about their earnings history and wealth levels as they entered retirement, while those for younger cohorts are projections based on their earnings history, projected earnings, and wealth accumulation to 2009, the most recent year of data available.

The youngest cohorts are unprepared for retirement.

While the wealth data provided earlier in this report look at each cohort in its entirety, fully understanding retirement preparedness demands a deeper dive as post-employment security is not uniform, even within a particular cohort. Figure 11 shows median replacement rates for three types of households in each cohort: single

LATE BOOMERS AND GEN-XERS DO NOT HAVE ADEQUATE RESOURCES FOR RETIREMENT AND ARE FACING POSSIBLE DOWNWARD MOBILITY

FIGURE 11. REPLACEMENT RATES BY COHORT AND HOUSEHOLD TYPE



Source: Panel Study of Income Dynamics.

Note: The replacement rate calculations project how much wealth individuals and families may have upon retirement at age 65 given current income levels and wealth accumulation. A replacement rate of 100 percent means that an individual or family would have exactly the same money in retirement that they had preretirement, a value below 100 percent means less, and a value above 100 percent means they would have more. There is debate about what an ideal replacement rate would be, but financial planners suggest that individuals should ideally be able to replace 70 to 100 percent of their annual income.

men, single women, and couples. Showing the rates separately by household type provides a clearer picture of the range of retirement preparedness within and across each cohort and highlights the effect of the above-noted demographic factors.

War babies have the highest replacement rates in all three household types. While each of the early-boomer household types have lower replacement rates than their war baby peers, they still appear to have adequate income replacement for a financially secure retirement.

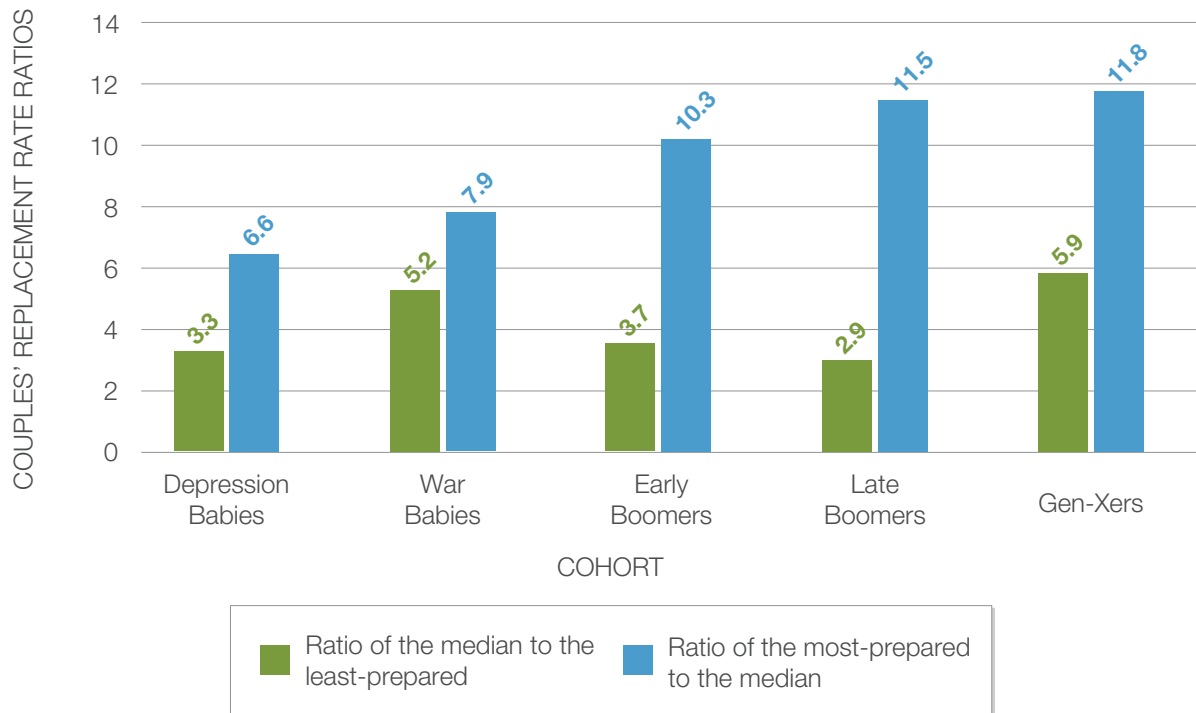
But replacement rates have declined steadily with each subsequent cohort, reaching the lowest values for Gen-Xers. Median rates for late boomers and Gen-Xers are barely above 60 and 50 percent, respectively, below what is generally regarded as adequate. Because these are medians, the data suggest that at least half of late-boomer and Gen-Xer households fall below these already low levels and may be facing an insecure retirement.

Median replacement rates have shrunk among successive cohorts of Americans. At the same time, inequality in retirement preparation within cohorts has grown.

This analysis compares the ratios of the lowest replacement rate in each cohort to the median rate in that same cohort and of the highest rate to the median.⁷ This approach captures how much distance there is between the most- and least-prepared households and median households within each cohort. Between

RETIREMENT READINESS HAS BECOME MORE UNEQUAL OVER TIME

FIGURE 12. REPLACEMENT RATE RATIOS BETWEEN THE MEDIAN AND THE LEAST-PREPARED, AND BETWEEN THE MOST-PREPARED AND THE MEDIAN, BY COHORT



Source: Panel Study of Income Dynamics.

Note: The replacement rates are calculated assuming retirement at age 65. The least-prepared, median, and most-prepared are represented by the replacement ratios of the 1st, 50th, and 99th percentiles, respectively.

the lowest rate and the median, Figure 12 shows that the ratio varies across cohorts, with the typical retiree—one at the median rate—having replacement rates three to six times greater than those least prepared to retire, that is, those with the lowest rate. There was less variation among baby boomers and Depression babies, and more within the war baby and Gen-X cohorts. So on the whole, there is no obvious trend across birth cohorts when comparing the least prepared with the middle.

By comparison, however, the ratio of the highest to the median replacement rates has steadily increased across all five cohorts, from 6.6 among Depression babies to nearly twice that—11.8—among Gen-Xers. In other words, those Gen-Xers most prepared for retirement have a

replacement rate nearly 12 times higher than their peers at the middle, reflecting that retirement preparedness within cohorts has become increasingly varied over time.

Importantly, however, this growing inequality in retirement readiness is due to median replacement rates declining, not to the highest rates rising. Table 6 shows the median replacement rates for each cohort. The downward trend in median rates across the cohorts indicates that the middle household has become increasingly less prepared for retirement with each subsequent cohort. Among war babies, the typical retiree was able to replace nearly 100 percent of his or her preretirement income, but Gen-Xers at the median will replace only 50 percent.

RETIREMENT PREPAREDNESS OVERALL HAS DECLINED ACROSS GENERATIONS

TABLE 6. MEDIAN REPLACEMENT RATES BY COHORT

	Depression Babies	War Babies	Early Boomers	Late Boomers	Gen-Xers
Median Replacement Rates	86%	99%	82%	59%	50%

Source: Panel Study of Income Dynamics.

Note: The replacement rates are calculated assuming retirement at age 65.

Conclusion

The evidence strongly suggests that early boomers may be the last generation on track to exceed the wealth of the cohorts that came before them and to enjoy a secure retirement. Early boomers' wealth, financial net worth, and home equity in their 50s/60s put them ahead of where Depression and war babies were at the same ages, and their replacement rates suggest that, even after the recession, they are well-prepared for retirement. The same cannot be said, however, for late boomers. In terms of overall wealth and home equity, they were ahead of where early boomers had been in their 40s/50s. But they fell behind their older cohort in financial net worth, and their replacement rates also suggest an insecure future.

Across the five cohorts studied, however, Gen-Xers are the least financially secure and the most likely to experience downward mobility in retirement. In their 30s/40s, the Gen-X cohort was behind where late boomers had been at the same age with respect to financial net worth, and they lost nearly half of their overall wealth in the recession. Gen-Xers' high debt relative to assets stands in contrast to older groups that had lower debt at the

same age. While Gen-Xers did experience the largest gains in home equity among the five cohorts, they also have the lowest rates of homeownership, minimizing the benefit of those equity gains for the cohort as a whole. Gen-Xers also have the lowest predicted replacement rates, with half or more unlikely to replace more than 50 percent of their preretirement earnings through savings and wealth.

Notably, the data above clearly point to a lack of savings and wealth accumulation among Gen-Xers even before the economic downturn. As policymakers focus attention on Americans' retirement security, particular consideration should be paid to helping the youngest cohorts change course and prepare for financial security over the long term.

Data and Methods

This report relies upon two data sets, the Survey of Consumer Finances and the Panel Study of Income Dynamics, in addition to a host of analytic approaches to best understand wealth trends and projected retirement replacement rates for different birth cohorts.

The five cohorts featured in this study are defined according to their years of birth. Depression babies were born between 1926 and 1935 and are currently 78 to 87 years old. War babies were born between 1936 and 1945 and are currently 68 to 77 years old. Early boomers were born between 1946 and 1955 and are currently 58 to 67 years old. Late boomers were born between 1956 and 1965 and are currently 48 to 57 years old. The youngest in this study, Gen-Xers, were born between 1966 and 1975 and are currently 38 to 47 years old.

Trends in wealth by cohort over time

To explore wealth trends for the cohorts over time, this study uses the Survey of Consumer Finances, collected by the Federal Reserve Board every three years from a large, representative sample of

Americans. Collected in its current form since 1983, the survey is considered the highest-quality data available for understanding household wealth. The analyses in this report use cross-sectional data from 1989 through 2010 to construct historical trends of the five cohorts' wealth. For each survey year of data, individuals are identified as being in a particular cohort according to their birth years. This method allows the cross-sectional data of the Survey of Consumer Finances to be compared across cohorts over two decades and at different lifecycle points.

The data in the survey are collected according to a primary economic unit, which represents the economic activity of a family household. Inflation-adjustments to September 2010 dollars were performed by the survey to its public data sets to allow comparability across time to the most recent survey year. All data in this study's analyses are weighted and divided by five. Dividing the weight by five is required because of the survey's unique method of imputing missing data by providing five imputates (in a sense, estimates) for each household.

Various forms of wealth are measured in this study using the Survey of Consumer Finances, including total net worth, financial net worth, and home equity. Also explored is the balance of assets relative to debt that each of the cohorts holds:

Total net worth in the survey includes all financial assets, such as savings and retirement accounts; nonfinancial assets, such as business property; and home equity, less any debt the household reports. All individuals in all cohorts are included in total net worth analyses in this study.

Financial net worth is a subset of total net worth that includes only financial assets, such as savings, 401(k)s, pensions, and individual retirement accounts. Only individuals who reported having financial net worth are included in analyses with this measure.

Home equity is the reported value of a home less the amount owed on it. Only homeowners' reported values are included in analyses of this measure.

Assets are positive wealth holdings, while *debt* include amounts owed on homes, vehicles, or loans, for example. An *asset-to-debt ratio* is constructed for all households in all cohorts to understand the magnitude with which assets outweigh debt. While researchers typically construct a debt-to-asset ratio, this analysis flips the ratio to focus on wealth and retirement preparedness across cohorts.

Replacement rate methodology

The replacement rate calculations, as well as one table that compares recessionary gains and losses within families in each cohort, rely on the Panel Study of Income Dynamics, or PSID. The PSID is a longitudinal data set that has followed the same families from 1968 to present. The PSID has been conducted continually since 1968, switching from annual to biennial data collection as of 1997. The analyses in this report rely upon PSID data from 1989 through 2009.

Replacement rate calculations project the anticipated wealth that individuals and families may have upon retirement given current income levels and wealth accumulation. It provides a benchmark for whether individuals and families will have the money they need at retirement to sustain their working-age standard of living. A replacement rate of 100 percent means that the individual or family would have exactly the same money in retirement that they had in their preretirement years, while a value below 100 percent signals they would have less, and a value above 100 percent would mean they are more than adequately prepared. There is some debate about what an ideal replacement rate would be, but financial planners suggest that individuals should ideally be able to replace 70 to 100 percent of their annual income.

In this report, replacement rate calculations involved multiple steps both to create the data and to perform the analyses. Replacement rates were calculated by:

- Obtaining a comprehensive wealth estimate (called “augmented wealth”) by summing measured wealth (or net worth) as reported in the PSID, defined benefit pensions, and Social Security benefits of the household head at age 65.
- Projecting augmented wealth forward annually for the combined life expectancy of the household head and spouse given their sex and race.
- Discounting future annuitized values to present value terms given when household heads turn age 65 using appropriate discount rates.
- Calculating the ratio to estimate the discounted present value to the average income of the household in the years between the household heads’ ages 60 and 64.

The methodology for each of these steps is explained in greater detail in the following sections.

Creation of the comprehensive wealth estimate, or augmented wealth

The net worth estimates reported in the PSID excluded two key forms of annuitized household wealth—Social Security benefits, or SSB, and defined benefit, or DB, pension wealth—because they are typically not reported in wealth surveys, being future income flows rather than stocks of wealth holdings. But both forms of annuitized wealth are critically important to obtaining an accurate estimate of retirement preparedness (as measured by replacement rates), because of both their predictability and their size relative to other sources of wealth for the majority of retired households. Various studies have found that Social Security benefits and defined benefit pensions account for half or more of household net worth.⁸

Therefore, using the PSID, it was necessary to create a comprehensive measure of retirement wealth at age 65, which we call “augmented wealth” which combines total (nonannuitized) net worth with the two main sources of annuitized wealth—SSB and DB pension wealth.⁹ We estimated augmented wealth for the five birth cohorts as of household heads’ being age 65 (or as near to age 65 as possible when all sources were reported in order to compare cohorts’ replacement rates at a common age).

Projecting wealth forward

The methods for estimating augmented wealth were affected both by the range of years covered and by features of the PSID surveys themselves. For example, methods differed for the oldest two and youngest three cohorts. The two oldest birth cohorts (Depression babies and war babies) had already reached age 64 by 2009. Hence, by 2009 most of those households were already receiving SSB and DB pension benefits, and the amounts were known and would change over time in reasonably predictable ways. Estimates of marketable (nonannuitized) net worth, SSB, and DB for most of these two older birth cohorts at or near age 65 were obtained directly from the survey responses.

Because of the nature of the survey questions, however, data were not always available for these older two cohorts at age 65, requiring the addition of household estimates from later survey years. This was true in part because SSB was sometimes collected on the PSID in a given survey year as household totals, rather than separate benefit amounts for each spouse. In such cases, benefit amounts were obtained in later years when spouses' benefits were identified separately. Furthermore, pensions were not included in the PSID surveys in 1989 and 1994, and questions about defined benefit and defined contribution plans were first asked in 1999. So, most of Depression babies' wealth was not available until 1999, when they were ages 64 to 73. Their wealth totals then had to be adjusted back to levels at age 65.

For the three youngest birth cohorts (early boomers, late boomers, and Gen-Xers), most of whom were still working in 2009, household net worth was projected forward from age 65 to their expected life span based on historical growth rates for housing, stock, and per capita net worth and life expectancy tables from the Centers for Disease Control and Prevention. The rates used included 8.1 percent per year for stocks (based on the average growth in the Standard & Poor's 500 index from 1971 to 2011), 3.4 percent for housing (based on the S&P/Case-Shiller index of housing prices from 1988-2011), and 6.1 percent for all other net worth (based on Federal Reserve Flow of Funds estimates for mean per capita annual growth in net worth from 1968 to 2009).

PSID surveys (since 1999) asked workers about pensions they either were receiving or expected to receive, when they expected to receive them, how much they would receive, and whether they were indexed for inflation. This information allowed for the projection of expected lifetime DB pension benefits for head and spouse. To estimate future SSB for younger cohorts in the PSID, individual earnings for these cohorts were projected to age 65 with a human capital approach similar to that described in Wolff (2011, 2007, 2005) and Kennickell and Sunden (1997). An estimated log-linear model of earnings was developed with Current Population Survey data, with the natural log of earnings as the dependent variable and a series of regressors that included hours worked,

years of experience, years of education, and several indicator variables, including self-employed or not, occupation code, marital status, and race:

$$\ln(\text{earnings}) = \alpha + \beta_1 \ln(\text{hours}), \beta_2 \ln(\text{experience}), \beta_3 \ln(\text{education}), \beta_4 (\text{self-employed}), \beta_5 (\text{occupation}), \beta_6 (\text{marital status}), \beta_7 (\text{race})$$

The coefficients from the CPS regressions were applied to observations in the PSID to estimate earnings for PSID households in 2009 and subsequent years, controlling for those variables, and then projected individual earnings forward at an overall nominal rate of 4 percent per year to generate annual percentage increases in earnings for workers to age 65. This implicitly assumes that relationships among the variables remained stable over time.

Once earnings were projected to age 65, the Average Indexed Monthly Earnings were calculated, then converted to the Primary Insurance Amount using historical and projected bend points, and then actuarial adjustments were made to benefits at age 65 based on when benefits were first taken. This was performed for both spouses in households with couples.

Present value estimates

The present discounted value of SSB and DB pension incomes at age 65 were determined using Social Security's nominal and real interest rate estimates and assumptions. Real rates were used to discount inflation-indexed streams of payments (e.g., Social Security and

some DB pensions), and nominal rates were used to discount unindexed streams (most DB pensions). The trustees' long-term projections are 2.9 percent for real interest rates and 5.7 percent for nominal rates beginning in 2020. Between 2010 and 2020, nominal rates range from 3.1 to 5.7 percent, and real rates range from 1.4 to 3.2 percent. The present discounted value of SSB and DB and net worth were added to obtain "augmented net worth" at age 65. For couples, it was assumed that annuities were joint-and-survivor, with the surviving spouse receiving half the value of the couple's benefit. Using annuity factors provided by the Social Security Administration's Office of the Chief Actuary, the augmented net worth amounts were converted to an inflation-indexed annuity value at age 65 for three types of households—single males, single females, and joint and survivor annuities for couples.

Calculating the final replacement ratio

This indexed annuity amount was then divided by the average household income over the five-year period from age 60-64 for the head of household. The ratio of the two is the replacement rate at age 65, and replacement rates were calculated at the mean, median, and at the 1st and 99th percentiles for each type of household for each birth cohort.

Endnotes

1 Net worth includes individuals who reported negative and zero assets.

2 A similar cohort analysis of total net worth was performed by E. Steurle et al., “Lost Generations? Wealth Building among Young Americans,” Urban Institute, 2013.

3 Typically, a debt-to-asset ratio is used by consumer finance specialists. Here the analysis uses an asset-to-debt ratio to focus specifically on the retirement preparedness between the cohorts.

4 Consider that in 1989, Depression babies were in their 50s/60s and had median debt just under \$10,000, while early boomers hit their 50s/60s in 2010 with median debt just under \$40,000 (see Figure 4).

5 Even before the Great Recession, many boomers had left the labor force before retirement age due to disability or lack of employment opportunities, so it is possible that some of their losses are also attributable to drawing down assets in retirement.

6 There is some evidence that Americans of all ages lost equity during the housing boom due to cash-out refinancing or simply taking out home equity lines or home equity lines of credit. These factors may have contributed to price declines during the bust.

7 Within cohorts, this analysis compares the ratio of couples at the 1st and 50th percentiles of replacement rates and the 99th and 50th percentiles of replacement rates. In other words, the least-prepared are at the 1st percentile within their cohort for their replacement rate, while the most-prepared are at the 99th percentile within their cohort for their replacement rate.

8 A. Gustman, T. Steinmeier, and N. Tabatabai, “What the Stock Market Decline Means for the Financial Security and Retirement Choices of the Near-Retirement Population,” Working Paper #15435, National Bureau of Economic Research, October 2009; E. Wolff, “Is the Equalizing Effect of Retirement Wealth Wearing Off?” Working Paper #420, The Levy Economics Institute, NYU and NBER, March 2005; E. Wolff, “The Retirement Wealth of the Baby Boom Generation,” *Journal of Monetary Economics*, 54 (2007): 1-40; D. Love, P. Smith, and L. McNair, “Do Households Have Enough Wealth for Retirement?” Finance and Economics Discussion Series Paper #2007-17, Federal Reserve Board, 2007; D. Love, M. Palumbo, and P. Smith, “The Trajectory of Wealth in Retirement,” Finance and Economics Discussion Series Paper #2008-13, Federal Reserve Board, 2008; D. Love, P. Smith, and L. McNair, “A New Look at the Wealth Adequacy of Older Households,” Finance and Economics Discussion Series Paper #2008-20, Federal Reserve Board, 2008; A. Kennickell and A. Sunden, “Pensions, Social Security, and the Distribution of Wealth,” Finance and Economics Discussion Series Paper #1997-55, Federal Reserve Board, 1997; A. Gustman et al, “Pension and Social Security Wealth in the Health and Retirement Study,” Working Paper #5912, National Bureau of Economic Research, February 1997.

9 E. Wolff, “Pensions in the 2000s: The Lost Decade?” Working Paper #16991, National Bureau of Economic Research, April 2011; E. Wolff, “The Retirement Wealth of the Baby Boom Generation”; E. Wolff, “Is the Equalizing Effect of Retirement Wealth Wearing Off?”; D. Love, P. Smith, and L. McNair, “Do Households Have Enough Wealth for Retirement?”; D. Love, M. Palumbo, and P. Smith, “The Trajectory of Wealth in Retirement”; D. Love, P. Smith, and L. McNair, “A New Look at the Wealth Adequacy of Older Households.”



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